University of Alberta

Computer-mediated Theatre:
An Examination of an Emerging Art Form

by

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in partial fulfillment of the requirements for the degree of Master of Arts.

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Abstract

A new art form, computer-mediated theatre, is emerging with the growing capabilities of digital communication networks. This live art form is heir to the cultural and artistic traditions of the theatre, as well as newer, technologically driven forms (i.e. cinema). Blending the live artistic strengths of theatre with the technologies of virtual reality, computer-mediated theatre is becoming a strong and distinct artistic practice.

This thesis offers an analysis of the computer-mediated theatrical event lays down a framework for better understanding and interpreting digital performance. Four performances are used as continuous points of reference to chart the growth of this new form of presentational narrative. The chapters are structured around three separate discussions: of space, audience and presence. Echoing the importance of presence in traditional theatre, the notion of telepresence emerges as the vital element for the experience and critical consideration of computer-mediated theatre.

Table of Contents

Introduction Page 1

Chapter 1: Page 8
Real Virtuality: Performance Spaces for the Digital Age

Chapter 2: Page 28
Virtual Audience: A New Form of Participation

Chapter 3: Page 49
Telepresence: An Interactive and Immersive Solution for Digital Performance

Conclusion Page 67

Bibliography Page 71

List of Figures

Figure 1: Page 18

Welcome to Elsinore, from Hamnet Players. *Hamnet: Shakespeare's Play Adapted for IRC.* December 12, 1993. <www.hambule.co.uk/hamnet/hscript.htm>, Accessed March 4, 2004.

Figure 2: Page 21

waitingforgodot.com from Desktop Theatre. "Performance Archive." September 1997. <http://leda.ucsd.edu/%7Eajenik/archive/plays/Godot/files/p_gd_01.htm>, Accessed March 4, 2004.

Introduction

Throughout history, narrative has been presented in many different forms. As new media emerge, different means are sought to use them to tell our stories and recreate our reality. The relationship between narrative and medium is tremendously complex. As Marshall McLuhan had already pointed out in 1964, the medium of presentation drastically changes the form of the narrative. There is also some indication that cutting-edge narrative techniques may predict forms more common in later media, as demonstrated by A. Nicholas Vardac in *Stage to Screen: Theatrical Method from Garrick to Griffith*. The use of computer networks to host live performance presents us with the opportunity to observe the emergence of a new form of narrative, driven by the digital medium and inspired by theatre. Among the many forms of digitally mediated performance, I am looking specifically at those which use theatrical narratives. By examining the ways in which narrative performance changes when it is presented and experienced using computers, I hope to lay the groundwork for this new genre of performance. Through the analysis of four performances, this thesis examines the issues of performance space, audience and presence in computer-mediated theatre.

Experiments with live performance in the digital medium have taken many forms. I will be focussing on those events which share a few specific characteristics with traditional theatre. All of the events I am studying are live. By this, I mean that they are created and received at the same time, usually using the internet to facilitate the simultaneous communication of the event across

large distances. While the notions of time and liveness are important considerations that differentiate computer-mediated theatre from other digital art forms, I will not be covering the subject here, in order to better focus on the subtleties of the genre itself. Perhaps this is a fruitful avenue for future exploration. All of the events studied here are driven by narrative. Using narrativity as one of my criteria eliminated all of the non-narrative computer-mediated performance inspired by art installations. Three of the four online productions I will discuss are based on plays originally written for the stage. This direct translation of the theatrical event to a new medium allows for greater contextualization of the cultural discourse. Many forms of computer-mediated art are not live or driven by narrative, but these will not be examined as part of this thesis. These two fundamental similarities with the theatrical event, make it possible to use theatrical theories in the examination of computer-mediated theatre.

Although not as flashy as some of its other monikers, such as "cyberformance" (Avatar Body Collision) or "post-organic theatre" (Michael Causey), I will be referring to this phenomenon as computer-mediated theatre. Referring to it as theatre emphasises its links with the traditional art form which inspired it. Calling it computer-mediated helps foreground the complex relationship between medium and content. Computers, as the performance medium, carry the event and thus create the limits of the performance, which will be exploited for artistic effect. These performances are also mediated by computers in the sense that the computer acts as a median, a technological

barrier between the individuals participating in the event. Finally, computers mediate the event in the sense of acting as a negotiating agent for the theatrical process, steering the successful use of the medium. So, in saying that these events are computer-mediated, I refer to computers as medium, median, and mediator of the theatrical event.

The four computer-mediated theatrical performances which I discuss over the course of this thesis are very diverse, and chosen for different reasons. At least one element of each performance was innovative and set it apart from other online performances. There have, by now, been a wide range of theatrical activities online, and these four events are a representative cross-section.

The world premiere of *Hamnet*, an adaptation of Shakespeare's *Hamlet*, occurred on December 12, 1993 (Hamnet Players website). *Hamnet* was the first documented online performance, and is also a representative of text-only theatre. It was performed by the Hamnet Players, a group formed specifically for this event by Stuart Harris, an actor and writer of Internet Relay Chat (IRC) manuals (Danet "Introduction"). The performance was situated in a specifically designated IRC channel. The means were fairly primitive, with no graphical display to present images. Elsinore was represented by text-based graphics, and the rest of the imagery was left entirely up to the imagination of the participants.

The main source of material for researching this performance was the Hamnet Players' website (http://www.hambule.co.uk/hamnet/). It contains information about the performing group, as well as scripts and text logs of all of their performances. The time-sensitive nature of IRC does not appear in the logs

of the performance, but all of the audience interjections are preserved there, so the sequence is uninterrupted. Brenda Danet also wrote an article about this first experiment in computer-mediated theatre, "Curtain Time 20:00 GMT" (1996), which details the premiere of *Hamnet*. Since Danet was an audience member at *Hamnet*, the article contains a participant's perspective on the performance.

The second production I refer to is an online adaptation of *Waiting for Godot*, first presented by Desktop Theater in September 1997 at the Third Annual Digital Storytelling Festival. The two performers, Adriene Jenik and Lisa Brenneis, started experimenting with online role-playing games, but settled on using The Palace as the site of their first online performance (Jenik 96). The Palace, a two-dimensional graphical chat interface, allowed for a visually richer performance than *Hamnet*. The performers of *waitingforgodot.com*, as it is occasionally called, typed text into their computer, which then appeared in cartoon speech bubbles associated with their avatars on the screen.

There are also significant resources available about this performance. The Desktop Theater website (www.desktoptheater.org) has an extensive archive of material relating to the production, including the performance script and pictures as well as animated recordings of the event. Adriene Jenik also wrote an article about Desktop Theater's various performances, including *Waiting for Godot*. In addition, a review of the performance was written for *Salon.com* by Scott Rosenberg, rounding out the material available about this performance.

The third performance, *Dress the Nation*, was written expressly for the internet and performed by Avatar Body Collision, an international troupe headed

by Helen Varley Jamieson. The performance, part of an international theatrical antiwar protest called the Lysistrata Project, was performed four times on March 3 and 4, 2003. Like Desktop Theatre, Avatar Body Collision used The Palace as the site of their performance. Following each show, the actors and some audience members went to various chat rooms and started discussions about war and terrorism. This action underscored the interactive potential inherent in the digital medium.

The only resource available regarding this performance is the Avatar Body Collision website (http://www.avatarbodycollision.org/lysis/lysis.html). The website contains explanations, as well as still images of the performances and excerpts from performance logs. Little else has been written about this performance.

The final performance discussed is *The Gas Heart*, my own first experiment in computer-mediated theatre, which took place on January 10, 2004. For the performance, we used a 3D graphical chat program called Digital Space Traveler, which allowed actors and participants to communicate by speaking into microphones. A large part of the experiment was in having actors in five different cities, and audience members scattered across North America. In the ways that it brought these people together, it was a fascinating performance. All of the information about this performance was taken from memory and my personal archives of the event.

All four of these events demonstrate the strengths and weaknesses of the computer mediation of live performance. Most important for this analysis are the

ways in which these productions adapt theatrical conventions to the digital medium. Through this analysis, it becomes clear that the wholesale transfer of theatrical convention is insufficient for the creation of effective computer-mediated performances. These early experiments in computer-mediated theatre represent the birth of a new form of narrative presentation.

The writings of various medium theorists are the basis of this attempt to lay out a theory of the computer-mediated theatrical event. Particularly useful in this regard is Marshall McLuhan's book *Understanding Media*. While there are relatively few direct citations from this book in the thesis, the ways in which McLuhan approaches the evolution of medium is one of its conceptual underpinnings. His epigones, Pierre Lévy, Paul Levinson and Derrick de Kerckhove, have also been important stepping stones for my study of computer-mediated theatre.

The other theorist who is absolutely essential to this thesis is narratologist Marie-Laure Ryan. Her theories of the computer-mediated theatrical event are the most detailed of any that I have seen, and apply to many other areas of computer-mediated art. Her article "Immersion vs. Interactivity: Virtual Reality and Literary Theory" (1999), in which she posits telepresence as essential to computer-mediated theatre, has been crucial for my understanding of this emerging art form. Her breakdown of telepresence into immersive and interactive components (111) has informed the structure of this thesis.

The first chapter discusses the parallels between theatrical and virtual spaces. This outline of the immersive elements of the computer-mediated

theatrical event demonstrates some of the uses of computer technology in creating non-physical spaces for performance.

Chapter 2 questions the nature of the audience, and their importance within the computer-mediated theatrical event. The dispersed and anonymous nature of both the performers and spectators make role distinctions very difficult, especially when the interactive nature of computers is taken into account. A redefinition of aura essential in order to emphasise the importance of the dispersed audience's interaction with the performance.

Finally, Chapter 3 brings these elements together and emphasises telepresence as essential to computer-mediated theatre, just as theatrical presence is essential for theatre. Telepresence, as the word itself suggests, is simply the projection of presence across distance. The success of computer-mediated theatre hinges on its ability to create immersive and interactive events which allow the audience to experience telepresence and feel like they are part of the performance.

This analysis of the computer-mediated theatrical event lays down a framework for better understanding and interpreting digital performance. The strengths and weaknesses of the performances examined here point a course for the evolution of a new form of presentational narrative.

Real Virtuality: Performance Spaces for the Digital Age

Many theatre theorists point at space as essential for performance. What makes the space itself theatrical is a matter of debate among theorists and some theoretically minded practitioners. A few elements of theatrical space seem to be consistent in current analyses. In spite of these commonalities, the wide range of definitions of theatrical space is frequently contradictory. Existing definitions revolve around one of two general frameworks.

The first, as epitomized by Peter Brook, defines theatrical space as any space in which one person could watch another, thus emphasising the performative act that takes place within the space. Theatrical space remains central in this conception of theatre, but only as a necessary support for the action. The second is a more architectural model, which puts the emphasis on the intended use of the space, as well as the positioning of the audience in relation to the performance. According to the architectural model, a space must fulfill certain essential functions to be considered theatrical. While the first paradigm is extremely broad, the second excludes any space which does not have a designed and designated audience space. Both highlight the space's role in shaping the theatrical event, whether their emphasis is on the performance or on the audience.

The fascination with and the attempts to theorize theatrical space come largely in the twentieth century, and may have been caused by the increased popularity of film and television. Philip Auslander credits the rise of television with the need to differentiate theatre and other performative genres from

mediated ones, by emphasising their liveness ("Live from Cyberspace" 16). A similar phenomenon may be at work with the importance placed on presence as an integral part of the theatrical event. Most attempts to define theatrical space and to theorize a specific spacial element to the theatrical event also come after the advent and popularization of television, perhaps as part of a drive to create theatrical theories in the face of the rise in technological media of communication.

The expansion of communications media, especially the advent of computers, has caused us to reevaluate the way we conceive of space and distance in our everyday interactions. The technological bridging of distance which became possible with the telephone has become even easier with the internet. When we use these technologies, we are able to communicate with other people, much as if they were in the same room as us. On the internet, the locus of communication is frequently a digitally constructed space, which does not actually have spacial coordinates, but occupies the interstitial spaces with the medium itself. Computer-mediated theatre is a form of live performance which occupies the interstitial spaces of digital communications, the digital and non-physical spaces on the internet and other computer networks. Much in the same way that television caused a reexamination of the liveness of the theatrical event, we must now reevaluate the theatrical space in light of digital technologies.

There are many parallels between digital and theatrical spaces, and these are the focus of this chapter. I will begin with an examination of theatrical spaces, with special attention paid to Anne Ubersfeld's semiotic approach and the

mimetic – diegetic division posited by Michael Issacharov, who theorised the issue of theatrical space extensively. Following that, I will look at the digital spaces used by the four computer-mediated performances and the ways in which they combine digital space and theatrical conventions. In this examination, I will highlight the similarities between theatrical and digitally created spaces, in particular the ways in which they encourage and inform the live nature of performative events.

Semiotic analysis of the theatrical space often revolves around the emphasis placed on symbols on the space. One of the most colourful descriptions of the symbolic nature of the stage comes from an entry in the diary of Swiss playwright Max Frisch (from Esslin 3). He describes an ordinary conversation he witnessed on stage between a stage hand and an actress. According to Frisch, the event took on an entirely different nature because they were on a stage, in spite of the fact that the conversation consisted of everyday banalities. He compares the stage to a picture frame, which serves to enhance meaning. "What does a frame say to us? It says: look here, here you will find something worth looking at, something standing outside mere coincidence and temporality" (3). As Esslin points out, the stage, like the picture frame, endows its contents with a heavier semiotic weight (4). Because of the framing effect, objects on stage take on a deeper meaning, even if they are there unintentionally. The actor and stage hand referred to by Frisch came to represent their entire professions and the power of the stage, simply by virtue of being on stage. Theatre stages are essential as the

first step in creating theatrical meaning, and their effectiveness can be evaluated on the basis of how well their contents are imbued with meaning.

A similar point is raised by Anne Ubersfeld in her book *Reading Theatre*, when she points out the dual existence of objects on stage (101). A chair on stage is really a chair, and will remain so regardless of whether it is on stage or not. At the same time, the chair on stage takes on symbolic meaning, as it represents a specific chair referred to in the script. The fictional chair is frequently in a distant location and differs in appearance to the one visible on stage. If the chair is in a theatrical space, the audience will more likely accept this second, more complex, system of referents for the chair. Instead of relying on the first level of semiotic meaning, which dictates that the chair is simply itself, the theatrical space effectively constructs its own set of referents for the spacial signifiers which are on stage (103). Usually, this additional signification takes the form of a complex iconic relationship between the on-stage *signifiant* and its *signifié*, but one which is dependent on the complexities of the events surrounding the *signifiant* itself, including but not limited to the text of the play being performed.

The interpretation of these sign-systems by the audience is an essential part of the theatrical event, and one which is facilitated by the fact that the *signifiant* is on stage (Esslin 4). The framing of theatrical objects causes them to become more semiotically charged, and thus imbues them with a depth of symbolic meaning. A theatrical space, in warning the audience of the semiotization of its contents, prepares the audience for a semiotically enriched reception of the performance.

Experimentation with different theatrical spaces was an essential part of the modernist redefinition of the theatrical world. Peter Brook declared that he could take any space and make it a theatrical space by the simple expedient of performing in it (Brook 4). While this statement was intended to destabilize the traditional understanding of theatrical spaces, it replaces traditional theatrical construction with a system that is centred on the intention of the performer and the availability of an audience. Once someone declares a space to be theatrical, it is so.

Making a similar point from the perspective of audience reception rather than the performer's intent is Antonin Artaud in *Le théâtre et son double*. The essence of the theatrical space, for Artaud, is that it enhances the audience's experience, and accentuates the visceral impact of the play. The theatrical space should be, for Artaud, a flexible space in which the audience can be surrounded, physically, emotionally and intellectually, and attacked by the theatrical event (148-150). Instead of the actor declaring a space theatrical, Artaud leaves this designation in the hands of the audience; the effectiveness of the theatrical space, which must change for each production, is determined by the audience's reception of the work. Both Brook and Artaud, for all their differences, emphasise the same thing: the theatrical space as a *lieu de rencontre*, or meeting ground, of the audience with the performance. This relationship is far more important than any physical attributes of the space itself.

Combining the semiotic model of theatrical space with the vision of theatrical space as *lieu de rencontre* is essential to the creation of a theory of the

theatrical space. While the space can be configured in any way, have a wide variety of appearances, and may not even have been intended to be theatrical, it still has several distinguishing characteristics. Michael Issacharoff posits one of the most complete theories of the theatrical space in his 1980 article "Space and Reference in Drama," when he describes two distinct layers of spacial representation in theatre.

First, the theatrical space must be capable of representing the richness of the theatrical event to its audience. To fulfill this, the theatrical space itself must have mimetic potential (Issacharoff 216). It must be able to support not only the actors' mimetic approach to character, but also be the site of the mimesis of place. The stage must be able to effectively represent the stated setting of the play. In addition, the stage must be able to fulfill the accompanying diegetic function of space, a natural consequence of its mimetic potential. Stage referents must be flexible enough to indicate not only the location of the play, but also to infer the existence of the fictional world of the play beyond the bounds of the stage itself. The diegetic function of space is referred to at length by Issacharov, and completes the theatrical event by permitting the event's expansion in the mind of the spectator.

Second, the theatrical space emphasises the meanings of on-stage material by acting as a frame for the performance. This primarily plays with the mimetic aspect of theatrical space by emphasising those elements which are visibly present. Diegetic elements are also essential, however, since their absence serves to further focus the attention of the audience on the narrative being presented.

The specifics of the images received by the audience will differ from performance to performance, but the theatrical space itself must prepare the audience to receive and understand the complex spacial relationships presented in dramatic texts.

The framing of digital performances is most obviously seen in either the frame of the screen or window in which the space is viewed. This frame becomes, to transplant the theatrical terminology, the stage that amplifies semiotic meaning. The presence or absence of elements from this frame, essential for the shaping of the narrative, make up mimetic and diegetic elements in the digital space.

The non-physical nature of digital environments further heightens its semiotic nature in two distinct ways. The audience member remains conscious, much as in conventional theatre, that what they are viewing exists outside of their reality. As in theatre, audience members are asked to suspend their disbelief, and accept the digital objects as existing within the frame of reference of the narrative. Like on a stage, all objects in digital spaces have been purposely designed and created, emphasising the semiotic natures of the spacial elements found there. Over the internet, where limited bandwidth is a barrier to the transmission of complex graphical images, those objects in a digital space are further emphasised, since greater resources are required to send complex objects. Objects are therefore at a premium, increasing the value of each individual one. The non-physicality of the digital medium, the primary difference between digital

and physical spaces, makes digital spaces, like theatrical spaces, sites of intense semiotization.

Virtual realities continue the trend of the prioritization of the visual, caused in large part by the intense mediatization of the 20th and early 21st centuries (Hillis 28). Their uniquely visual existence gives virtual space a unique place in our conception of reality, being neither entirely physical and externalized, nor psychological and internalized but, rather, a hybrid spacial form (Velmans 46). Virtual reality gives creators and audience members a chance to project their imagined realities onto a form which others can then perceive and interact with. Since these internally imagined psychological realities frequently ignore physical barriers, the designer's imagination, in being allowed to control the physical rules which define the space, is given free rein to replicate what is in his imagination.

The process of digital creation is very similar to the process of theatre designers creating sets which define the performed space. Much in the way that set designers strive to realize their creations on stage, showing the audience something of the way they imagined the play, creators of digital spaces strive to impart meaning and symbol through the arrangement of spacial indicators. Both theatrical spaces and digital spaces share a common symbolic core, being purposely created based on an imagined setting. By means of illustration, let us return to the earlier analogy, used by Anne Ubersfeld, of the chair on stage. While the chair undeniably has a physical existence, its existence on a symbolic level effectively de-emphasises its physical existence, even while it relies on this

physicality to support its symbolic value. A digital chair still has symbolic value, since it represents an imagination outside that of the viewer, giving users insights into the environment they are observing. Even a tremendously detailed digital chair lacks the detail of the physical chair, forcing the viewer to imagine the details of the chair. This abstraction, forced by the limitations of the digital medium, makes the chair subject to the reception and interpretation of the viewer. The audience's ability to interpret each object, as in theatre, is emphasised by the nature of the digital medium.

Digital images also lack the fundamental physical nature of theatrical objects. Computer-mediated objects thus lack the semiotic duality of theatrical objects. Because they do not have a physical existence, they can only be referred to by what they signify, and so can not have meaning independently of their *signifié*. They therefore separate themselves, by their lack of physicality, from theatrical objects since they do not act as *signifié* in and of themselves. The pixels which make up the digital representation of a chair will never actually be a chair. A theatrical chair, though it may represent a distanced fictional chair, is still a chair on its own merits. To put a finer point on the distinction between virtual and theatrical spaces, theatrical space can be said to be part of both physical space and conceptual space. Digital space, on the other hand, is an imperfect reflection of both these spaces, not being able to fulfill the conditions of either. While both bridge the physical and conceptual, a remarkable similarity, they approach it from opposite directions; theatrical space by being present in both, and digital space by being absent. The simultaneously physical and conceptual

nature of digital and theatrical space allows them to present unique views of our surroundings.

In digital spaces, the lack of attachment to physical reality means that the rules of physical reality can be ignored, allowing for the creation of physically impossible environments. For the performance of *The Gas Heart* based out of the University of Alberta, the digital space was a cubist deconstruction of the interior of a cube. Since the space had no obvious orientation and no associated gravity, the notions of "up" and "down" rapidly became irrelevant, permitting a chaotic mix of audience and performer within the performance space. This effect was chosen very carefully to support the text of *The Gas Heart*, and provided a surreal, disjointed setting for a play with very little linear narrative. The Dadaist / surrealist nature of the play and the non-physicality of the performance space complemented each other in creating a unique theatrical event. Distance between the performers and audience, in the form of computer mediation, also served to highlight the discontinuity of the script. A disjointed staging, such as the one used, is impossible in a traditional theatrical space, and thus brings a unique aspect to the performance. The virtual nature of reality was highlighted by the simple expedient of placing a nonsensical performance in a setting in which nonsense was expected, and therefore the norm. The digital space in this performance effectively broke down the illusion of reality, while substituting the virtual, creating new definitions of spacial relationships.

The distancing of the setting of *The Gas Heart* from the limits of physical reality begs the question of whether or not a digital representation of space is

necessary at all. Since computers are a non-physical medium, the creation of spaces not only adds a level of difficulty to the digital production process, but is foreign to the digital medium itself. Paradoxically for a non-physical environment, spacial metaphors and descriptions are at the core of our understanding of computers. Spacial language is used extensively to describe the internet, for example the common use of web *sites*, *surfing* the net, or cyber*space*. William Gibson, in coining the word cyberspace in his novel *Neuromancer*, described it as "a consensual hallucination experienced daily by billions of legitimate operators.... A graphic representation of data.... Like city lights, receding..." (51). Digital physicality is based on a mutual willingness to accept a sense of place where all evidence says that there is none (Berg 109). Berg, the administrator of ATHEMOO, a multiple-user platform intended for theatre educators, further suggests that the internet may yet develop a more spacial way of representing information, since the web is yet in its infancy (109 - 111).

Instead of the spacial representation of data imagined by William Gibson, current web sites tend to emulate print and archival media. This mirrors the documentary tendency of early film, which were used more to record events or images of people than to create narrative fictions. As David Cook points out in his seminal history of narrative film, narrative cinema did not emerge until a few years after the first public projection of motion pictures in 1898, and then were very short and simple (11). In fact, travel films and documentaries were the most popular early cinematic forms, and these only lost their popularity after film

editing techniques became more complex (14). Even early narrative film was very close to the theatrical practice of the time, with a single camera angle and theatrical acting styles (14-15). The emergence of camera techniques and the editing interventions which are the hallmarks of current film was a coming of age for cinema, in particular because it allowed film to break away from its theatrical roots. Equivalent techniques will have to be created for digital media to come into their own and be able to present narratives on their own terms rather than as a simple transposition of current theatrical or cinematic forms.

The advent of online digital narrative mirrors the development of narrative in film, in that it represents a shift away from the early documentary uses of computers. This shift has been accompanied by an increased emphasis on the creation of digital spaces, much in the same way that films shifted towards manufactured spaces with the growth of narrativity. Most, if not all computer-mediated theatrical performances have gone to great lengths to establish virtual spaces. The importance of the creation of a space for performance occurs regardless of the specific interface program used. Even in uniquely textual performances without the benefit of a visual interface, the need for theatrical space persists.

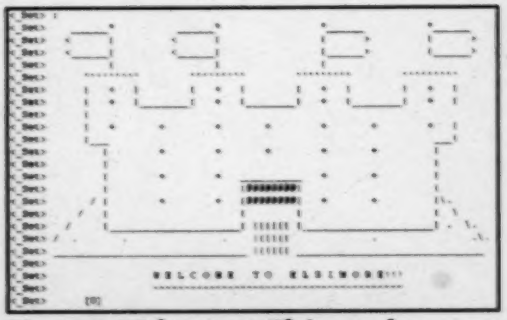

Figure 1: Welcome to Elsinore, from Hamnet Players. *Hamnet: Shakespeare's Play Adapted for IRC.* December 12, 1993. <www.hambule.co.uk/hamnet/hscript.htm>, Accessed March 4, 2004.

Hamnet, the first live online theatrical performance, was presented

on December 12, 1993, and had an elaborate set constructed entirely of typographic symbols (see Figure 1). These symbols, which have distinct mathematical and textual meanings and uses, presented the viewer with a graphical representation of the castle at Elsinore. This basic representation of the fictional space introduced the audience to the fictional world of the performance, and provided a setting which directly referenced its computer mediation. Just as the bricks and mortar of Elsinore were made of typographical characters, the action of the play would occur through the use of words within the completely textual environment of Internet Relay Chat (IRC).

The references to the medium continued in the body of the script itself, emphasising even further the mediated facet of the performance. The play begins with the character <Prologue> declaring:

> <PROLOGUE> All the world's a Unix term . . . [3]
> <PROLOGUE> . . . and all the men & women merely irc addicts . . . [4].
> (Hamnet Players homepage)

Here, the entire world is placed within the context of the textually generated environment, inviting the audience, as Shakespeare often did in his prologues, to consider themselves a part of the fictional, in this case textual, world. Stage directions, visible to all, at the beginning and end of the script also indicate the raising and lowering of the curtain (Hamnet Players homepage), establishing that specific IRC chat room as theatrical. The performers and audience members, as "irc addicts," are also positioned in a world of their own, one defined by IRC and in which the performance of *Hamnet* was about to take place. The request that is being made is clear: that the participants in the event accept the consensual

hallucination of IRC as a theatre and the typographical drawing as Shakespeare's fictional Elsinore. Only once the space has been established can the performance itself begin.

Spacial specificity was essential for the other two IRC-based performances as well. Presented in a graphical online chat environment called The Palace, both *Waiting for Godot* and *Dress the Nation* use two-dimensional graphics in order to establish their theatrical spaces. In The Palace, all users are represented by small images (avatars) of their choosing and their screen name, which appears just below their avatar. These avatars, in turn, are within a small window with a background image which can be modified using tools present in the interface. Avatars function very well, from a theatrical perspective, as costumes for performance purposes. However, since all users are represented by avatars, there is no *a priori* visual way to distinguish between performers and audience members. Performer must therefore find visual ways to set themselves apart from the audience, a process requiring careful and well thought out avatar design. The process is very similar to historical interpreters, who dress in period costumes to guide visitors through a tourist attraction; it is the costume alone which separates an actor from a performer.

Since all participants are present in the same frame, careful avatar design provides a means of re-creating the traditional division of theatrical spaces. This enables the actors to reclaim some of the authority and power available to them in traditional theatrical performances. In doing so, they attempt to re-create the theatrical duality of actor and audience as part of the transfer of the theatrical

event to a new medium. The relationship between actor and spectator will be discussed at length in Chapter 2, but represents one of the most important areas of change for computer-mediated theatre.

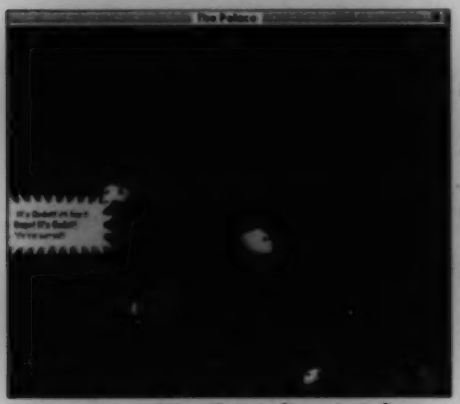

Figure 2: waitingforgodot.com from Desktop Theatre. Performance Archive. September 1997.

Desktop Theater used a pre-existing space for their performance of *Waiting for Godot*, which premiered in 1997. The colours are very dark, with the "land" and dead trees silhouetted against the sky (see Figure 2). The end result is very stark, a suitable setting which emphasizes the play's hopelessness and fatalism. This is reinforced by the graphical representation of the actors and audience members within the space.

While many of the audience members used photographic avatars (such as MuscleMan in Figure 2), the two actors used "simple 'everyman' avatars [fashioned] from the basic Palace character known as 'roundhead'" (Jenik 99). Roundhead is the avatar given to new users in The Palace, and so these avatars had special meaning within that specific community. This helped differentiate the actors and audience, while maintaining the appearance of helplessness on the part of the characters. Combined, these elements create an effective mimetic theatrical atmosphere within the confines of the Palace environment. As in traditional theatre, the nature of the space and the use of spacial cues is the defining element of the actors' ability to convey the inherent theatricality of the

performance. Desktop Theater was able to use the conventions of The Palace by adapting them to character naming and costuming, effectively creating a computer-mediated theatrical space.

The Palace was also used by Avatar Body Collision for their performance of *Dress the Nation*. There were two distinct sections of this performance, and each used digital space in very different ways. Each of the two acts of the first section used different techniques to include the digital space as an active element of the performance. The space for Act 1 was based on the American flag, but with crosses in place of the stars. Three of the characters, near the end of the act, adopt cross avatars and place themselves on the flag, effectively becoming part of the set. This action reinforces the digital nature of both the performers and the space they occupy, reshaping the theatrical space to include the actors. The background changes for the second act, with a drawing of a tank occupying most of the space, a reminder of pervasive war coverage. In this case it was George Bush, or at least the actor represented by his picture, who was under attack. As the act progressed, graffiti-like writing spelling out "No War" was drawn on the background by one of the actors, further modifying the theatrical space.

The way in which the digital nature of the theatrical environment is used by Avatar Body Collision illuminates ways in which digital space can be used directly to support performance. In both acts, the digital space is prioritized, and plays an essential part in the creation of meaning within computer-mediated theatre. The merging of the space with three of the performers created an unusual harmony between the work and its medium of production because it

recognized the digital nature of both the digital space and the performers. It also highlighted the fact that the performers and costumes are also part of the performed space.

During one performance, an audience member who was offended by the messages of the play began to draw over and erase the background drawings in the space. Eventually the performers, consulting with each other in a second chat window, decided that the audience member was being too distracting, and "killed" them, banning them from the digital space (Avatar Body Collision). While this event may have been disruptive to the performance itself, it graphically illustrates the lack of separation between audience and performer in the digital space. This change in the fundamental separation of theatrical space changes the entire dynamic of the performance, allowing audience members to affect the play in ways which would be extraordinarily unusual in traditional theatre.

The breaking down of the theatrical barriers between audience and performer was one of the most important experiments of the Happenings in the 1960s. Either by inviting the audience to the stage, or by not using a stage at all, Happenings were effective in questioning existing divisions between audience and performer. Since the 1960s, this separation has been maintained in theatre and accentuated in film. The hierarchical neutrality of digital spaces makes it very difficult to justify maintaining any kind of division between participants.

The establishment of a performance space is an essential part of computer-mediated theatre and helps differentiate it from other forms of online interaction. This differentiation can be accomplished by assigning a name to the site or chat

room being used to clearly indicate a performance. For instance, the Hamnet Players used an IRC room title and actor titles that clearly indicated that a theatrical production was taking place (Hamnet). Most people entering the chat room would therefore be expecting a theatrical performance. Another tool of differentiation within digital spaces is the use of distinctive avatars and names. The character avatars and names in *Dress the Nation* were parodies of contemporary politicians. Thus, by differentiating the room and the appearance of the performer, computer-mediated performances can set themselves apart from the myriad other activities on the internet. In setting themselves apart from the digital world that surrounds them, computer-mediated theatre echoes its physical counterpart, which separates itself from the world by walls as well as complex conventions.

As stated earlier, there are many enduring similarities between physical theatre spaces and virtual spaces. Even more than theatrical spaces, virtual spaces have mimetic and diegetic components. Because of the frame of the computer screen or window, the edges of the performance's mimetic space are fairly clear, and are used much in the same way as mimetic space in theatre. As in theatre, the actors in a computer-mediated performance represent characters in a narrative, and ask the audience to believe that the character is actually engaged in the narrative. As in theatre, the appearance of the performed space is specifically designed to represent a specific place or feeling, and the audience is likewise asked to accept that setting for the length of the play. The goal is that the audience members immerse themselves in the space and performance, coming to

view it as an acceptable illusion of reality, even if it is not actually mistakable for reality. In both computer-mediated theatre and traditional theatre, while spectators may accept the space as presented (whether we call this suspension of disbelief or consensual hallucination), they usually remain conscious that a fiction is being presented, and do not actually confuse it with reality.

While the mimetic component of the space stays relatively stable across media, the diegetic space changes significantly. To begin with, there is a duality in the diegetic nature of digital space; there is not only the fictional diegetic space, but also the distanced and therefore absent real space of the performer (which the audience can not know, but only infer).

Fictional diegetic space, made up of those places which are referred to but not represented, changes significantly in a digital space. Digital spaces must be able to suggest, as do theatrical spaces, that the places referred to in the script actually exist in the fiction off the stage. On the internet, the site of most computer-mediated performances, diegetic spaces can actually be displayed. By directing the audience to links to other websites, additional supporting information can be made explicitly available, effectively extending the performed space beyond its ordinary bounds. The choice of whether to access the information is left up to each individual, making the performance unique for each individual viewing it. Audience members can also choose to access additional information independently, further extending the space of the performance. Computer-mediated theatre can draw all of the resources of the internet into the

broader space of the performance, making use of diegetic theatrical spaces that are both outside the performance and readily visible.

Spearheaded by Erwin Piscator, the use of audio-visual elements in theatre has become more common over the 20th century. Traditionally unseen spaces are now often shown on stage with photographs, video or digital imaging technology. There is also a marked increase in multiple simultaneous stage events, giving the audience a more chaotic action. The movement to a more disjointed space and the explicit showing of diegetic spaces is becoming more common, especially in post-modern performances. That being said, this tendency in traditional theatre may be the target of a future "purification" of theatre, much as cinematic techniques were phased out of live theatre once it became apparent that they were more efficient on film. It also gives computer-mediated theatre fertile ground on which to base its experimentation.

The second diegetic space that is part of the computer-mediated theatrical event is the actual physical spaces of each participant. Ultimately, each participant has no idea what the others are doing during the performance or where they are. The performance of *The Gas Heart* provides ample illustration of this point. Two of the actors were at a projection site at the University of Alberta, with a sizeable in-house audience. Phil Wang in Waterloo, on the other hand, was at a party for the duration of the performance. Each of these two groups of performers, as well as the acquired audience members watching over their shoulders, had drastically different experiences of the event by the simple expedient of their physical surroundings being different. Since, unlike traditional

theatre, the production has no control over the physical space occupied by the audience, it is doubly important that the digital space be immersive enough to keep all participants interested.

There are many computer technologies which could be used for the production of computer-mediated theatrical spaces. Most of these focus on increasing the graphical complexity available for digital production, and the evolution is very rapid. I do not mean to present an exhaustive list of possible interfaces and programs to use for computer-mediated theatre, however, two of these technologies in particular show enormous potential for the creation of computer-mediated theatre.

The first, and most interesting from the perspective of computer-mediated theatre is Upstage (www.upstage.org.nz). It is the first web-based venue intended specifically for theatre, and was launched on January 9, 2004. The chat room interface is very similar to that used in The Palace, but there are also tools to produce rudimentary animations, as well as to provide for rapid costume changes. Most notably, the integration of web-cam technology in Upstage foregrounds the actor and emphasises the liveness of the performance. While the communication is still primarily text-based, the camera provides an additional tool for expression.

Second, three-dimensional visualization, such as the VizRoom at the University of Alberta, provide a more direct form of graphical immersion. The VizRoom is a projection facility, in which there are screens on three sides of the person using it. Sensors within the space detect the user's motions which, in

turn, affect how he interacts with the digital space. Along the same lines, smart rooms, which have projections on all surfaces, as well as a series of sensors to detect the user's movement, are still in development. These visualization tools have been used for artistic projects in the past, but their potential for interaction has not yet been fully realized within an artistic context.

As the technological capacity for digital space creation and manipulation grows, the flexibility of the computer-mediated theatrical event grows as well. We may never actually see William Gibson's graphical representations of information, or have a chance to walk into Star Trek's holodeck. However, the tools we have at our disposal now are strong enough to create meaningful performances, and the continued growth of visualization technologies bodes well for the creation of even more effective and immersive spaces for use in the creation of computer-mediated theatre.

Virtual Audience: A New Form of Participation

Like all performative arts, theatre relies heavily on its audience as part of the event. Theorist Herbert Blau describes theatre as having the "look of being looked at" (*The Audience* 73), prioritizing the audience's role within the theatrical event. The desire to draw the gaze into its presentation results in a more direct relation to its audience than is available in most other art forms. Driven by this close relationship, the audience consents to participate fully in the dream which takes place on stage (73), cementing their involvement in the event. This voyeurism is at the core of theatre; it is an interaction between the performer and the audience (Southern 21). The specifics of audience involvement have evolved in response to many social, artistic and technological changes, but their importance remains pivotal.

With computer-mediated theatre, the audience takes on an even greater role, adding new dimensions to the performance, and questioning traditional theatrical roles and organization. The purpose of computers is the manipulation of and interaction with information (Manovich 55), and this amplifies the importance already placed on interaction in traditional theatre. Because computer-mediated spaces are not efficient at communicating emotion, audience interaction online is based primarily on the communication of ideas. Rather than having an impact on the energy of the performance, as occurs in traditional theatre, the interaction of the audience affects the course of the narrative directly. If the audience can affect the narrative directly, are they still an audience? Can an

audience be said to exist in such a framework? In this chapter I will attempt to answer these questions.

The first half of the chapter is an examination of audience in the four performances I have selected for inclusion in this thesis. All of these performances attempted to transfer the theatrical notion of audience directly to the digital medium. That this transfer did not work tells us several things about the nature of audiences in computer-mediated theatre. The importance of the interface is central to this discussion, since it affects the ways in which audience members can interact with the performance they are watching. If audience members are to interact, the narrative must also be sufficiently flexible to allow them to have a meaningful impact on the event. Gabriella Giannachi observed many similar things in her book *Virtual Theatres*, and her observations, especially about different forms of narrative, echoing the ideas of Janet Murray in *Hamlet on the Holodeck*. The ways in which narrative and interface affect audience in computer-mediated theatre are very similar to what Allan Kaprow tried to accomplish with Happenings in the 1960s, and this forms an important part of analysis as well.

The question whether an audience can be said to exist at all in computer-mediated theatre is the subject of the second half of the chapter. Marie-Laure Ryan, most notably in her article "Interactive Drama: Narrativity in a Highly Interactive Environment," has suggested that the traditional theatrical roles of author, director, actor and audience are obsolete in computer-mediated theatre. This idea is borne out in the performances examined for this thesis, in spite of the

fact that they attempted to maintain traditional actor / audience relationships. Walter Benjamin's concepts of aura and authenticity provide an interesting framework for analysing the impact of this breakdown of theatrical roles. Clearly, the work of art in an age of digital reproduction differs significantly from its mechanically reproduced models.

The earliest online production, *Hamnet*, attempted to replicate traditional theatre audience roles. The IRC community in which the event took place was a highly technical one, populated largely by people who were very familiar with computer interfaces. It was an energetic and diverse community, with the habitual users entering and exiting rooms constantly, and holding many conversations simultaneously. Some were unfamiliar with theatre and needed to be taught the subtleties of the theatrical form. Others were new to computers and needed to be taught the IRC etiquette and jargon (Danet "Logistics"). Perhaps the biggest challenge for the performance was arranging for a stable and uninterrupted performance platform in IRC, a medium where chaotic interactions were the norm (Danet "Logistics"). In spite of this, the logs posted at the Hamnet Players' website (http://www.hambule.co.uk/hamnet/) are highly chaotic, likely due to the nature of the IRC interface and community. Users kept speaking out of turn, asking questions at inopportune moments and changing the course of the play. Far from detracting from the performance, however, this multi-channelled discussion served to distinguish the online performances from both traditional performances, and everyday IRC interactions.

The way roles were distributed was also driven by the medium. About two hours before the play began, scripts were made available online and minor roles were assigned to those in attendance (Danet "Logistics"), transforming would-be audience members into performers. Once all of the roles were assigned, there were far more people with assigned roles than spectators. As a result, performers became the primary audience of the play, a situation which is highly unusual in live theatre but not uncommon for computer-mediated performances. The merging of these traditionally disparate roles of spectator and actor creates a unique dynamic, and begins to differentiate computer-mediated theatrical audiences from traditional ones. While the performance was staged as an experiment (Danet "Introduction"), the creation of a new category of theatrical participant, the actor/spectator, was unwittingly the most ground-breaking aspect of the production. The result is a fusion of the notion of audience, actor and of the reception of the theatrical event.

Normally, participants in theatrical events can be divided into two distinct categories: those who know the intimate details of the event about to take place (artists) and those who only know its general framework (audience). For *Hamnet*, the distribution of the roles to the audience members brought on by the medium of presentation broke down this distinction. Even though there was a small group who had planned the event, nobody really knew anything more than generalities about the event about to unfold. In addition, its novelty as the first computer-mediated theatrical performance made participants even more uncertain about the event, adding to this confusion. As a result, there were no

fully initiated participants in *Hamnet*, since it was an experimental endeavour and, as a result, impossible for someone to be initiated to it *a priori*. The method of assignment of roles, an auction before the performance, meant that most of the performers had not seen the text for very long, and none of them had rehearsed prior to the event. Barriers which usually exist between actors and the audience were present but meaningless in the face of a medium which made the distinction obsolete.

Hamnet (1993) took place in the context of a community where discussion and dissent were the foundational elements (Danet "Logistics"). Because of this and the novelty of the event, the authority of the actor became diminished, and was only as valid as the authority of any spectator. The audience frequently participated as equals and, not having taken this into account in their planning, the performance was restarted several times before participants were satisfied with the results. On the day of the first performance, for instance, *Hamnet* had to be staged four times before it could be completed without interruption. The frequent interruptions were in spite of warnings posted at the site of performance and warnings to participants about the etiquette of the situation (Danet "Logistics"). On entering the space, participants saw the message "Topic for #hamnet: Hamlet in progress. Shush!" and a character, <prologue>, requested that audience members "Enjoy our show + no heckling plz" ("Hamnet performance log"). This clearly established the expectation that the audience members would watch the performance quietly as traditionally passive audience members. The request for calm and quiet did not work, since audience members

continued to enter, exit and comment as they pleased. The very fact that the audience disregarded a direct request for their cooperation underscores the fundamental destabilisation of the concept of the passive spectator. While subsequent performances were able to be significantly more subtle than *Hamnet*, having learned from this inaugural performance, the destabilisation of audience conventions in computer-mediated theatre persisted regardless of the performance or its goals.

Other early computer-mediated performances made attempts to maintain a traditionally passive audience. The examples I am going to give here are all performances based in Multi User Domains (MUDs), text-based interaction systems based on early interactive adventure games. These programs establish spaces using textual descriptions shown to the user on their entering the space. Many MUDs have developed theatrical traditions, and some are even committed to the discussion and production of theatre. One setup for theatrical activity, used at MediaMOO, has two separate audience spaces in an attempt to cater to different types of audience (Schweller 148). The Main Floor, the most traditional audience space, limits the audience's participation and interaction with the play in performance. Spectators in this space may type in commands through the interface to "clap," "laugh," "boo" or "shout" (152), but any comments they may have on the performance are suppressed and not transmitted to the other users. The Balcony, the second audience space, is intended for those who "prefer a more social and interactive environment" (152). Commentary on the performance is actively encouraged in this space, but it still can not reach those on the Main

Floor. The format of the digital theatrical space is thereby able to replicate a traditional theatrical space on the Main Floor, even while it accommodates a more vocal and interactive audience on the Balcony. Personal preference, rather than economics, is the deciding factor for audience members, who must choose at the outset what kind of experience they wish to have during the performance.

The second production, *Waiting for Godot* (1997), provides a very graphic example of the deconstruction of audience passivity. There was a very wide range of audience behaviour over the course of its performances, since the space the performance was held in was a popular space with young users. Frequently, unrelated conversations occurred between audience members simultaneously with and parallel to the performance itself, but these tended to be relatively short (waitingforgodot.com Archive). Often, comments would be made about the performance, some realizing that a theatrical performance was going on, some not. Unlike the MediaMOO setup, there was no attempt made to separate the audience from the stage, and no facilities were in place to divide the audience members by their desired theatrical experience.

The blurring of the boundaries of theatrical roles within the virtual environment is highlighted by one particular event during a performance of *Waiting for Godot*. On the occasion of a performance in the Mansion virtual space, and screened at the Third Annual Digital Storytelling Festival in Crested Butte, Colorado (waitingforgodot.com Archive), the performance attracted the attention of a couple of audience members who normally frequented an adult chat room.

At one point, Muscleman, an audience member whose avatar was a picture of a male underwear model, decided to join the performance. He renamed his avatar Godot, moved it into the middle of the space, and declared that he, Godot, had arrived (Rosenberg 1). The play was forced from its path by this unexpected interruption, and the actors were forced to improvise, within the confines of their characters, until they could continue with the scripted performance. Muscleman's first declaration was a declaration of arrival, not only of Godot, a new character, but also of a new actor and, ultimately, a new play. In this case, Muscleman assumed four traditional theatrical functions: those of audience member, character, actor and playwright.

While it is feasible that this event may have happened in a theatre, the liveness and distance of the internet made the event, or at least some kind of audience intervention, almost inevitable. Traditional theatrical roles, especially the separation of the performer from the audience, are challenged by this new medium. In issuing this challenge, and ultimately meeting it through this performance of *Waiting for Godot*, computer-mediated theatre is beginning to differentiate itself from its physical counterpart. By allowing significant interaction, computer-mediated performances can use the liveness of the medium to emphasise the contact possible between people online.

MUD theatre also provides us with an example from the other side of the spectrum, one which fully integrates audience as performer. The space designed for *MetaMOOphorsis* appeared in 1994 on ATHEMOO (a Hawaii-based MUD for theatre educators) and is still extant. On entering the space, each user is told that

in order to participate, they must take a costume and adopt the identity of the characters from Kafka's novella, *Metamorphosis* (Sacks 171). Adopting a costume defines the ways in which users perceive others in the space, changing descriptions of these characters and informing users of their relationships to the other costumed users. Along with the costume comes a set of thirty pre-programmed text fragments drawn from Kafka's work, which can be used to inform the improvisations taking place (168). The audience member / actor can then move throughout the eleven rooms of the Kafka House, and interact with other characters within the context of *Metamorphosis*. The narrative is determined by the improvised interactions of the users, rather than a scripted scene structure (168). In this way, the audience member is vital to the reception of the theatrical work, and in its creation as well.

This blurring of theatrical roles is theorized by Marie-Laure Ryan as being the ultimate goal of online narrative ("Interactive Drama" 678). This model highlights the interactive nature of the virtual space, and its capacity to facilitate dialogue. As she points out, there are many traditional examples for one person taking on multiple roles within a production. The volunteers of street theatre, or the improvisations of *commedia dell'arte* demonstrate the flexibility of these roles within a traditional theatrical context (679). Both audience members and actors in these examples are party to the creation of narrative, each as creators in their own right, necessitating different structures of performance.

The regaining of the voice by the audience is similar to that caused by performance art or happenings. This newly found voice is partly, as Herbert Blau

puts it, a consequence of the loss of the concept of the audience as a unit, and the emerging necessity of describing audience members as individuals (333). The new space effectively necessitates the creation of a new audience convention, one which is more vocal, and raises the question of who is listening to this new theatrical voice. As demonstrated in Chapter 1, digital spaces not only break down the barriers between audience and performer, but have already established conventions for giving the audience voice and encouraging them to participate actively. In these new, disjointed spaces, theatrical roles no longer carry the weight of convention and tradition, and are deconstructed by the shift in spacial representation.

Giving the audience voice by confrontation rather than narrativity, Avatar Body Collision used the conversational conventions of The Palace environment in order to further its performative aims in *Dress the Nation* (2003). In using audience interaction as an integral part of their performance, Avatar Body Collision has learned the same lesson as Desktop Theater, whose later works strove to be more interactive (Jenik 107). After the initial scripted segment of the performance, *Dress the Nation* featured a much more interactive segment. The performers ended the first segment by inviting their audience to join them in adopting an avatar of a veiled woman.

The performers, along with some of their audience from the first section, proceeded to new palaces where discussions on various topics were taking place. In those palaces from which they were not immediately expelled, they began conversations on the issues surrounding the events of September 11 and the

ensuing war in Afghanistan. The rooms that were chosen for this performance were specifically chosen for the diversity of their various topics of choice (Dress the Nation). One of the selected rooms, The Mansion, was frequented by American teenagers, while another, Flirt, was used as a chat room for adult-oriented topics.

Usually, there was not much discussion, but in the Flirt palace Jen~DW~, an audience member represented by a series of female models, had lost her grandfather on September 11. An angry debate about the war and terrorism followed and attempts to make the political discussion stop were made. As one user put it, "No difference in opinions should happen in our happy harmonious community" (Dress the Nation). In The Mansion, an active debate began, with arguments for and against war, as well as speculation as to war's causes (Dress the Nation). In these post-show interventions, the performers were able to affect audience members, even those who had not seen the first part of the play, by initiating discussions with them in relation to the issues of the play.

My own experimental staging of *The Gas Heart* (2004) also shed some light on online audience involvement. For this performance, there were two distinct audiences, one in the online environment, and a second at the University of Alberta watching the performance on a large screen. As we discovered in the talkback session after the show, the two audiences experienced the performance in very different ways. The online audience showed a deeper understanding and involvement with the play, while the local audience seemed more overwhelmed by what was going on. Those audience members who were using the computers

in the space to navigate the performance themselves also enjoyed the performance more.

With the interactive nature of computers in mind, this finding is exactly what one would expect from the performance. Those who found themselves outside the ordinary paradigm of computer communication, unable to control it, had a vastly different experience of the event than those who were able to participate. This experience only serves to amplify the importance of the direct involvement of the audience in the performance, especially for computer-mediated theatre.

There were also two distinct experiences we had in regards to the online audience itself. *The Gas Heart* was presented twice, once as a dress rehearsal (which was not advertised) and once as a full performance. There were very few differences, between the dress rehearsal and publicised performance. The dress rehearsal had not been advertised, but we ended up with an audience of between six and ten people anyway. Many asked what was happening when they entered the room, and were told that we were rehearsing a play which would be performed the following night. At this announcement, many potential audience members left, but some did stay to watch.

Approximately fifteen minutes into the performance, audience members began to have other conversations. Most notably, there was a group of four people who situated themselves in the middle of the space, and began debating the merits of various DVD players. Since, in the digital setting, they occupied the same space as the performance, their discussion became an integral part of the

event as it unfolded online. The Dadaist script being performed ended up playing as counterpoint to this very mundane discussion which, as it was immediately understandable, took the forefront in the consciousness of those present. In bringing our performance closer to them, we attempted to further integrate their discussion in the performance, by having some actors deliver lines as if they were taking part in the audience's discussion. The resulting collage of nonsense dialogue and word repetition with this mundane conversation made the dress rehearsal by far the most memorable of the two performances.

For the second performance, the remote audience had been told that it was a theatrical event taking place. During this event, they behaved as a much more conventional theatrical audience, passively watching from the sides of the room. One of the audience members, using a giraffe avatar, briefly joined in with nonsensical phrases of her own, but this was short-lived. After the performance, many of the audience members said that, because characters would approach them and address them directly, they felt like they were an integral part of the event which took place. Those audience members who used the system regularly were able to project themselves into the system used and were therefore more involved in the performance. This sentiment was not echoed by the local audience who, more than anything else, reported being confused and overwhelmed by the novel uses of technology rather than affected by the performance itself. This situation has some important implications for the practice of computer-mediated theatre.

First, the audience relates to the performance in direct proportion to their familiarity with the computer interface. The audience's familiarity with an interface is an essential part of planning an online performance, and allows organisers to target a specific audience. A director may want an audience which is familiar with the interface, in order to intensify their relationship with the performance. Conversely, the goal may be to have an audience which is entirely unfamiliar with the interface; one which will be alienated from the performance because of the frustration of learning an interface while the event itself is taking place. This modern technological parallel of Brecht's *Verfremdungseffekt* has the potential to drive an already individuated audience to consider the implications of the themes and ideas presented in the play. Conversely, if you are searching for a more emotional response, the event should target those who know the interface, and would thus be able to detect unique uses of its abilities and deviations from its conventions. Most of the performances mentioned in this thesis targeted habitual users, while having new users physically in the space, without control over the performance events.

It is conceivable that an interface would be so intuitive that anyone experimenting with it would be able to be immediately familiar with its use. Such an interface would need to have conventions which are similar either to reality itself, or to those arts which directly represent reality. Interface design, seen in the light of theatrical mimesis, makes an attempt to create a mimetic relationship with the user. Brenda Laurel has written extensively about parallels between Aritsotle's *Poetics* and human-computer interface design. She refers to both

theatre and computers as mimetic, in that they both make extensive use of artistic representation to achieve their goals (45). As with theatrical signs, computerized mimesis "may not have real-world referents," (46) in that they often refer to fictional events and people.

Second, the audience's ability to participate in the performance directly affects their reaction to the performance itself. As the audience comments after *The Gas Heart* showed that audience members who were present but not able to directly affect the performance were less likely to have enjoyed themselves.

The computerized medium does not yet have the same amount of visual or auditory complexity as film, or even video. This drives the computer user to have a direct perceptual and psychological involvement with computerized images (Manovich 56). In addition, the user's ability to directly manipulate these images makes this interaction more physical and thus makes it feel more immediate. The psychological and physical interaction which is possible between the user and medium creates a strong convention of user participation for all subsequent events using a computerized medium. Computer-literate audience members for computer-mediated theatre tend to apply behaviours more appropriate to computer use than to the theatre.

The importance that setting causes for viewers of a theatrical event is clearly demonstrated with early motion pictures. Melodramatic film was a common form of early narrative film, and audience members would react to the film using conventions of melodramatic theatre, yelling suggestions at the screen, for instance (Singer 203). This was due to the similarity in content between

theatrical performances and cinema (203-5), but also because the arrangement of the audience was similar to that of staged theatre, as screenings were often held in old theatrical buildings. In time, audience conventions for both cinema and theatre became more sedate, driving the audience to take a more passive role in their observation.

Seated members in the projection space in Edmonton for *The Gas Heart*, adopted a passive disposition toward the performance, while those audience members who were using computers were much more active. The convention of computer interactivity must be taken into account by anyone preparing a computer-mediated performance.

Computer-mediated theatre puts significant emphasis on audience participation as a key component of the event. Audience members find themselves responsible not only for the reception of the event, but for shaping it to create an interesting performance. In addition, they also react more to those performances in which they are able to play this essential part. Taken to its logical conclusion, a successful event would be one which allows audience members to make artistically important contributions to the event, while presenting the audience with a framework for them to discover.

On a textual level, hypertext fiction provides us with a demonstration of this principle. Hypertext fiction is composed of blocks of text, which are linked to each other in various ways. The reader has control over these links, and is able to determine the order in which they read the text (Giannachi 13-14). Each reader experiences the text differently not only because of their differing understanding

of the words and their connotations, but also because each reader experiences the words themselves in a different order. The narrative flow of the work is therefore out of the control of the author, except to the extent that the author decides on the initial layout of the links of the work. Hypertext itself is not new, print examples being found in the works of Marshall McLuhan, James Joyce or Jacques Derrida (15-16). The digital medium, however, allows hypertext to be used in ways that print and paper can not (16).

The creation of works which allow the audience to shape them are also not new in the world of theatre. Happenings, as a theatrical art form, are similar in the way that their composition takes an active and participatory audience into account. While most happenings were not participatory (Kaprow 183), there were quite a number which used audience members much in the same way that they were traditionally used in other participatory forms of theatre. It should also be noted that happenings had a specific kind of audience, mostly very artistic, which was very willing to participate in the event and become part of it (184). Even so, instructions were often given to the audience of what kind of participation was required, whether by demonstration or by the distribution of specific instructions (184).

In other happenings, the line between performer and audience was further blurred. One of the ideals for happenings was that they should be unrehearsed and performed by whoever happened to show up (63-64). The audience in effect then disappears, since there is nobody present whose role it is simply to watch, as everyone is actively involved in the performance. Even when there was a

designated audience, as soon as they agreed to participate in the happening, they became actors (64), even while they internally maintained their identity as audience member (184). In their drive to be actual events rather than representations, happenings broke down these barriers. They provide us with a useful framework with which to work in deconstructing traditional theatrical roles.

While the event organizer attempts, both in happenings and in computer-mediated theatre (computer-mediated happenings?), to include the audience integrally in the performance, the audience must also be ready to participate in the event. That participation can take many forms, including not getting involved, so long as that non-involvement takes the form of a conscious decision on the part of the audience member. Should they decide to participate, any audience member may become, of their own volition, an actor, character or even an author of the play (in the sense that they can change the course of the narrative). But, if an uninitiated participant can shape the work of art to such a degree, what is its status as artwork? Is the notion of artist-created aura also extinct for this kind of performance?

Walter Benjamin's groundbreaking essay, "The Work of Art in the Age of Mechanical Reproduction" examines issues raised by the physical reproduction of art. According to the views put forward in the essay, a work of art, upon reproduction, lacks the authenticity and aura of the original (667). In light of computerized art, this begs the question: What is the status of a work of art when there is no original? In the realm of digital art, since the work exists only within

the computer, the artwork has no physical original. If, "the presence of the original is the prerequisite to the concept of authenticity" (667), then digital art, possessing neither physical presence nor having an original can not be authentic, and therefore does not have an aura.

For those digital arts which are presented live, whether they are theatrical events or webcams, a significant amount of excitement can be generated. Even though these events can later be reproduced with absolute fidelity, there is a certain amount of cultural capital implicit in witnessing the event as it is created.

Novelty is also a common generator of excitement online, as reported by participants in *Hamnet* who felt excited that they were witnessing the first online performance (Danet "Introduction"). Danet herself states that "there is no substitute for being present and experiencing the flow of events in real time" ("Introduction"). That audience members would feel excitement over witnessing the performance, and express the view that the live event is superior is a testament to the potential of computer-mediated theatre to generate aura. By bridging distance while retaining its liveness, computer-mediated theatre compensates for the lack of physical original by creating a temporal original which assumes aura-generating properties.

Computer-mediated theatre also relies heavily on its audience to create its aura. With the digital medium, audience members are able to participate in the performance itself and change its outcome in very measurable ways. Because the audience changes between performances, the outcome will be different, based on the interactions each audience. Someone present at one performance of a play

will not experience the same event as those present at subsequent performances. Just as with traditional theatre, computer-mediated theatre creates its originality through the temporal uniqueness of their audiences. Performances may subsequently be recorded or copied, but the opportunity for someone to affect the performance is gone. These copies take on a decidedly archival air, much like filmed archives of theatrical events. The originality and uniqueness of each performance are directly created by the audience's interactions and interjections. It is the online presence of the audience which gives computer-mediated theatre its authenticity.

Computer-mediated theatre offers an interesting paradox in relation to Benjamin's comments on the contact between actor and audience in motion pictures. In film, as in computer-mediated theatre, there is a distance between the actor and audience, which would result in the destruction of the actor's aura (673). However, film also removes any possibility of the actor responding to the audience, allowing the audience member to withdraw from personal contact with the actor (672). Since, in computer-mediated theatre, the actor can respond to the reactions of his audience, it would logically follow that the audience has the potential, given the right interface, to be in personal contact with the actor, and thus come under the influence of the actor's aura.

To the extent that the actor in the digital medium, in his ability to communicate directly with his audience, has retained his aura, he loses some of his authority by being no closer to the theatrical space than the audience. Effectively, the actor becomes a member of the audience in addition to being an

actor and, on occasion playwright. Since all participants in the event are potentially actors, the authority of the actor is diminished, even while the authority and power of the audience are increased. Computer-mediated theatre is able to create and maintain aura only so far as it is able to establish itself as a cooperative rather than a demonstrative art form.

The role of the audience in computer-mediated theatre is both expanded and restricted. On one hand, the audience is able to participate in the creation of the play itself, actively shaping its outcomes. This allows for a more active participation on the part of the audience, similar to that seen in Happenings or street theatre (LeNoir 185). At the same time, to fully appreciate the performance, an audience member must be an active participant in the performance. This precludes the passivity to which theatrical and cinematic audiences have become accustomed, and gives the audience member creative agency. A spectator becomes responsible not only for their own reception of the work, but also the reception of others. It demands that the audience member become an artist, at least in the sense that the artist is the person responsible for the creation of aura in a piece of art.

Digital art, including computer-mediated theatre, is reshaping the demands it makes on its audience. In emphasising the interactive elements of its content, the audience is given agency in the creation of the work of art. This interactivity combines with some of the other attributes of the digital medium, such as the ready availability of supporting materials, to create a unique experience for the audience and the work's aura.

The biggest weakness of all of the performances I have cited here is that they did not allow audience interaction to change the course of the event's narrative. A person or group of people were always at the core of the event, planning it and ensuring that the outcome was what they had imagined. For future performances of computer-mediated theatre, allowing and encouraging meaningful audience participation is key to maintaining the interactivity and aura of the event. Models for theatre with flexible narratives can be drawn from many theatrical traditions, including commedia dell'arte and Happenings. Ultimately, new forms of dramatic interaction will emerge to take advantage of computer-mediated theatre as it evolves to become a distinct form.

Audiences in computer-mediated events will also change as the form emerges. Participation will become more wide spread, as audience members become more confident in the digital medium. Interaction will also be more common, and audiences will expect that their interactions will shape the event in significant ways. The audience, as much as the performers will drive the computer-mediated theatrical event, breaking down distinctions between the traditional roles associated with performance. In this light, the biggest change that will have to be effectuated is the existence of the audience.

Even Boal's SpectActor does not adequately describe the complex situation surrounding this new situation, as it does not encompass the roles of designer, director or playwright which are assumed by those involved. Perhaps the best theatrical analogy lies with Happenings, where everyone was a "participant" in

the event. It is for participants, rather than audience, that future computer-mediated theatrical events will orient their performances.

Telepresence: An Interactive and Immersive Solution for Digital Performance

As we have seen in the two prior chapters, there are many common elements between the computer medium and the theatrical event. This is reinforced by Aylett and Louchart in their analysis of digital narrative forms. While they conclude that digital narrative forms must differ significantly from prior forms, their analysis of the elements of those narrative forms demonstrates some intriguing parallels between theatre and the digital medium.

Narratives presented digitally, as well as theatrically, have strong roots in both space and time. They are generated in real time and received by the audience as they are created (3). Both are interactive, since their audiences have the opportunity to react to and shape the unfolding narrative (4). Both are also strongly visual in their emphasis, which differentiates them from the novel, in which the images are generated directly in the imagination of the reader (3). Both rely on presence (though the kinds of presence each uses are different) to help convey their meaning and drive audience involvement in the narrative (4).

This chapter is an examination of the differences and similarities between the types of presence offered by computer-mediated theatre and its real-world model. The divergence of the types of presence created in these two forms of live narrative event is the primary reason that the theatrical event can not be transferred wholesale to the digital medium. In order to facilitate discussion, the notion of presence has been divided into three categories, each with distinct characteristics.

The first, what I will call physical presence, is the presence we all feel in everyday life; it is the presence of normal everyday interaction. Second, the kind of presence found in theatre; what I will call theatrical presence. Finally, I will be referring to the digital equivalent of presence as telepresence, since it is created at a distance, allowing people who are at disparate locations to communicate and collaborate.

I will then look specifically at telepresence and the ways in which it attempts to represent physical presence at a distance. The distance and the nature of the medium itself have an enormous impact on the attributes of telepresence. The discussion will begin with the interactivity of both environments, many elements of which are represented in the computer medium, including the question of the types of communication which are possible (or not) in a digital setting. Then, the focus will shift to the depth of sensory input that is possible on computers, one of the limiting factors in determining computers' ability to create fully immersive environments. Finally, the discussion will move to ways in which computer-mediated environments and events can diverge from reality, creating new environments while leaving the interactive elements unharmed.

In her article, "Immersion vs. Interactivity: Virtual Reality and Literary Theory," which I have referred to in my other chapters as well, theorist Marie-Laure Ryan lays out two conditions for the creation of telepresence. The virtual environment must enable the user to experience both immersion and interaction (111). A user is considered immersed in the environment when there are enough

interesting things in the environment to keep their attention and interest. This interest may stem from graphical representations of items and objects, or from textual descriptions. It is quite possible for a novel to be an immersive environment, particularly romance or science-fiction novels (Bolter, as cited in Ryan 120). However, the novel lacks an effective form of interactivity. Though we may become immersed in the content of a novel, there is no way to change the outcomes and narrative of the fiction. Other art forms are much more interactive; abstract painting, for example, allows each person viewing it to create their own story and explanation, creating a different experience for each viewer. Paradoxically, viewing abstract encourages the viewer to remain distant in formulating their response to the work, and thus is distancing rather than immersive for the viewer. The technical demands and capabilities of the digital, however, make the creation of works of art which are simultaneously immersive and interactive possible.

One of the strengths of theatre, and the reason that presence is at its core, is that the theatrical event is also both immersive and interactive. Much like the novel, the theatrical narrative drives the audience's immersion in and involvement with the event. Following a lot of the elements of the novel in creating the immersive element of theatre, the narrative drives the audience's involvement in the fiction unfolding on stage. This is helped significantly by the physical presence of the actors on stage, and the audience's ability to see and hear the actors in great detail. Theatre is also interactive, as the audience's reactions can influence the tone and energy of the performance. Audience members do not

have unlimited access to the stage for the purposes of interactivity, however. They are not usually permitted to speak to the actors on stage, nor can they ordinarily interact physically with the stage and make their own individual presence felt in the performance. These forms of interaction would, of course, be possible, but theatrical conventions are such that these interactions do not often take place. None the less, in theatre, the very strong immersive element of the stage seems to compensate for the weaknesses in its interactivity to create an event which revolves around the presence it creates.

In the case of telepresence, the inverse relationship exists; that is to say, computer mediated environments are less immersive than theatrical or physical reality, but offer significant interactivity to users. As Lev Manovich points out in his book *The Language of New Media*, to speak of computers as being interactive is to say nothing at all; interactivity is simply "the most basic fact about computers" (55). Computers were originally intended for and remain primarily used for the manipulation of information, and this direct manipulation has become essential for computer-mediated art as well (56-57).

The strength of the immersion found in theatre is not present in the digital domain, at least not yet. One of the measurements of immersion is the detail of sensory perception available to the environment. While we may some day be able to replicate the details of actual physical perception using computers, we are far from this level of detail at this point in time. Many digital environments attempt to compensate for the lack of detail by digressing from the rules of the physical world and calling on the user's imagination to fill in the details which are lacking.

The environment may have no indications of physical orientation at all, like the one used for *The Gas Heart*, in order to make the environment more interesting for the user. In so doing, designers of computer-mediated environments hope to interest the user and encourage them to project themselves into the environment.

On closer examination, most attempts to boost the immersion of virtual environments are really selective uses of computers' interactive qualities. A lack of physical orientation or gravity is only interesting when participants manipulate it themselves. In this way, the interactivity of computers, as a medium, compensates for its fundamental lack of immersive qualities. Telepresence is essential for computer-mediated art in very much the same way as theatrical presence is for theatre.

Both of these forms of presence must be compared with physical presence, the presence of everyday life and interaction. When physical presence is viewed in terms of immersion and interactivity, the distance of both theatrical presence and telepresence from it becomes very clear. This is because physical presence is both strongly immersive and interactive, even more so than either of the other two forms of presence discussed here. While theatre provides an extremely immersive environment, it pales in comparison to physical reality where, while the level of detail experienced is similar, immersion applies to more senses and in more complex ways. Computers, for all of the strength of their interactivity, still can not replicate the enormous number of options available in physical reality.

While they make use of presence, it is clear that neither theatre nor computers can completely replicate the physical presence of our everyday

interactions and experience. Compared to everyday life, the interaction allowed for by theatre or computer is rudimentary at best. Both of these forms of presence take on much of their potency and effectiveness from elements found in physical spaces. The relationship between the different forms of presence is complex, regardless of the medium in which the presence occurs.

This relationship parallels the mimetic process often applied to theatrical spaces and acting. As Mieke Bal points out, mimesis implies the absence of the original object in the context of the representation (172). Physical presence, in this case the original object, is absent from both digital and theatrical media. Both theatrical presence and telepresence represent, each in their own way, a radical simplification of physical presence. Not entirely coincidentally, simplification is another one of the important attributes of mimesis. To recall Dupont-Roc and Lallot's description of mimetic interplay:

> L'activité mimétique établit entre deux objets, modèle et copie, une relation complexe; elle implique à la fois ressemblance et différence, identification et transformation, d'un seul et même mouvement. (cited in Bal 173)[1]

While mimesis usually denotes a physical representation of an object, it has also been applied to other things, for instance the personality of a character or the sound of an animal. The relationship between theatrical presence or telepresence on one hand and physical presence on the other is mimetic in every sense. Our sensation of presence within a theatrical or online framework refers us to physical

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[1] Mimetic activity establishes a complex relationship between two objects, a model and a copy; it implies at once similarity and difference, identification and transformation, all in a single motion. (translation mine)

presence rather than replicating it, and re-present presence in different contexts. While both emulate physical presence, neither form of presence is as immediate or visceral as the original form. The end result with these mimetic forms of presence, as with traditional mimetic representation, is two distinct forms of presence which are at once similar to and drastically different from the original.

This similar / dissimilar relationship also becomes clearer when the individual elements of immersion and interaction are examined. For telepresence, the similarities with physical presence come in the domain of interactivity, creating the same air of infinite possibilities in a digital setting as exists in the real world. Major differences exist in the immersive elements of telepresence, since computers can not rival the complexity or depth of physical environments. At the same time, rather than rely solely on resemblance to the physical world, digital environments often represent more fantastical settings and objects. The user is called on to interpret the graphical or auditory output of the computer in a way similar to viewer reinterpretation of abstract art.

Most of these environments use complex systems to approximate the physical conditions of the world around us. Video game designers have discovered that players want to be able to recognize reality without its restraints, so a certain amount of "virtual unreality" is required to maintain the user's attention (Pietro 59-60). The goal here, as with theatrical mimesis, is to make the immersion and interactivity similar enough to reality to be recognized, but not enough to limit the actions of those involved in the performance.

Interaction and communication are, as we have seen, the *raison d'être* of computers and digitally created environments. As in our physical world, the spaces as well as the people within them are within reach and can be affected by a person's physical or digital presence. The interactivity of computerized realities is perhaps most aptly demonstrated using computer games. The individual, while playing the game, controls his path through its fiction, determining the path of the narrative to its conclusion. Drastically different paths can be taken through the game's narrative, making the experience potentially very different for two different users, or even for one user in different attempts at playing the game. Many computer games are concerned with the completion of a specific task and give the user flexibility in how and whether or not the task is accomplished as a device to build interest (Laurel 106-7). The flexibility of the environment is key, giving the user the impression that his interaction is important, thus maintaining his interest in the game (94). Digital environments can be changed by users as well, with objects being moved or created to suit the user and allow for a personalized digital space.

The personalization of space is even more important in online communities. Online role-playing games, such as Everquest or Neverwinter Nights, allow users to interact online, communicating by word (usually typed, but occasionally spoken), as well as by the actions of their characters. Characters in the Everquest environment are encouraged to design and establish a lodging, which reflects their standing and status within the game. A sense of belonging

and ownership is thus encouraged, part of what has made Everquest the most popular online role-playing game in North America.

More than this, however, it is the interactive nature of the game which attracts its players. The ability to communicate and create stories from the actions of user-controlled characters is what makes the computer experience distinct and special for players of these games. The same holds true for computer-mediated theatre. The interactive elements are what create the unique nature (and thus the aura) of the computer-mediated theatrical event. In other words, in an interactive medium, it should be expected that, while performing *Waiting for Godot*, a participant would join in and declare him/herself to be Godot.

Computer-based communication is not nearly as fluid and flexible as what we enjoy in our everyday lives. Because of the distance between users, physical communication, that is to say communication by physical contact, is impossible. Emotional communication is very limited using existing communication technology. This is not to say that emotional attachment is impossible within digital environments, merely that emotional concepts are difficult to communicate online. While difficult, it is possible to express an emotional concept or mood within the confines of online interaction. "Smilies," small graphical images representing a smiling or frowning (among many others) face, help add some emotional context to e-mails and textual chat programs. Desktop Theater used a similar method to indicate emotion on the part of Didi and Gogo in their production of *Waiting for Godot*. Digital Space Traveler, the interface

used for *The Gas Heart*, allows users to demonstrate four different emotions with their avatars. Depending on what animations are chosen, these emotions may or may not be visible to others in the space, but the potential for rudimentary emotional communication exists. This highlights the biggest difference between physical emotional communication and its digital counterpart: the digital expression of emotion is always a conscious decision on the part of the user. By making emotional communication conscious, rather than automatic, it becomes part of the purposeful and idea-driven communication that is the biggest strength of computer-mediation.

The transfer of information from one person to the other is the *raişon d'être* of the internet and other computer networks. The lack of physical and emotional cues makes the internet one of the best means we have to exchange complex or esoteric information. This has enormous consequences for computer-mediated theatre.

In traditional theatre, audience feedback happens on an emotional, almost uncontrollable level. For its computer-mediated counterpart, however, the feedback is almost exclusively information-based. This kind of feedback is not well suited to changing the energy of the performance or the emotional tone adopted by the actors. Rather, it acts directly on the flow of the narrative, changing the course of the story that the play is trying to tell. This kind of feedback, driven as it is by the nature of the medium itself, is unavoidable for computer-mediated performance. At the very least, this shift in the form of

audience feedback requires new narrative paradigms to retain audience interest and artistic integrity.

This presents an interesting contrast to the forms of communication available in traditional theatre. In a theatrical space, audience members are prohibited, by tradition, conventions, and taboo, rather than by any physical inhibition, from communicating with the performers in either a physical or informational way. While computer-mediated communication is limited in areas outside of ideas and information, theatrical communication is primarily emotional. Both of these artistic forms allow audiences to affect the artistic product itself but limit participants to one primary form of feedback. The difference in the form of feedback between theatrical and computer-mediate communication also translates into drastically different forms of presence.

It is vital that telepresence be used to its full potential in the creation of computer-mediated theatrical events. The strengths of the medium, especially its facility in creating interaction between participants, can be exploited through changes in the event's narrative structure. Some possibilities, mainly inspired from the structures used by hypertextual fiction, are advanced by Marie-Laure Ryan in her article "Interactive Drama: Narrativity in a Highly Interactive Environment." Ultimately, many narrative structures will be used in computer-mediated theatrical production, and will be the basis for significant future experimentation.

There are differences between computer mediation and the medium of traditional theatre that go beyond the difference in the locus of their

communications. Their comparison is complex, reflecting our uncertainty about the future of computer development and access. I will try to avoid value judgments here, simply describing each as a shift or change in the locus of meaning and expression rather than attempting to assign a value to the change. These changes are brought about, in particular, by three major differences between the theatrical and digital media: (1) the "heat" of each medium, (2) the breakdown of distance enabled by the digital medium, and (3) its inherent non-physicality.

Expressed in terms of Marshall McLuhan's dichotomy of hot and cool media (as presented in *Understanding Media*), computers are among the coolest media of communication to date (Levinson 107-118). The information they provide, while vast in scope, is poorly defined, leaving the user to fill in significant gaps in information, defining them as being very cool. The users' activity in a cool medium causes each user to become more involved in the content itself, emphasising the interactive elements of the medium (Levinson 105-118). When the fundamental interactivity of the digital medium, in the sense posited by Manovich where it indicates the direct manipulation of data, is brought into play, we are left with the picture of a medium which engages its user in an interactive way, both on the mental and practical plane. This plays out in the various audience interjections in the events which I have described, most notably in the declaration of MuscleMan that he was Godot. It is important to note that each of the performances were interrupted by their audiences. This occurred because of

the cool nature of the digital medium, and the subsequent emphasis on interaction.

Traditional theatre, by contrast, lays claim to being interactive as well, but limits the audience's interaction (in most cases) to a kind of emotional response. Audiences are able to react and interact, but they lose their agency whenever the performance begins (for a more detailed analysis, see Chapter 2). As pointed out earlier in this chapter, the range of sensation provided by theatre is narrow, restricted to a single space and time, and primarily to two senses. The detail available within those confines is extremely high, however, making theatre, by McLuhan's definition, a very hot medium.

If a traditional play is to be performed digitally, there is an even larger shift required, since the transition which occurs is from a very hot medium to a very cool one. As with any art form, a significant measure of the success of computer-mediated theatre is in how well it uses the attributes of its chosen medium. In this transition from a hot to a cool medium, from a medium focussed on immersion to one focussed on interaction, a major shift will have to take place in the focus of the computer-mediated theatrical event.

This movement towards interactive performances builds on the 20th century experiments such as Happenings, in which narrative was sidelined in order to allow things to happen. Much as in Happenings, computer-mediated theatre, housed as it is in an interactive medium, needs to allow its participants to create the event and allow it to happen. Participants in computer-mediated theatre thus have a greater amount of control over the outcome of the event.

The second major difference which changes the focus of computer-mediated theatre is the breakdown of distance enabled by the internet. Building on the heritage of the telegraph and telephone, the internet allows a much greater range of instantaneous long-range communication than was previously possible. This new possibility has redefined our sense of space, creating what Marshall McLuhan called a Global Village (de Kerckhove 181-183). This is not to suggest that people around the world are all the same but rather that, through the internet, all parts of the world seem within immediate reach. At the same time, digital spaces occupy a special place outside the concerns of the physical world, since they usually have no physical equivalent or model, being born of the imagination of their creators.

In these spaces, participants may be anywhere in the world with an internet connection. Chat rooms, for instance, rarely reveal the physical location of people using them, so there is always the possibility that your contribution to the discussion is being seen or heard across the world. There is also, of course, the possibility that your discussion is being seen or heard across the street, in the bedroom or office or basement of someone very near. The mystery and excitement is caused by the fact that you do not know where the other participants are.

It is also impossible to know what the other participants are doing. Some of each participant's attention (or at least their computer resources) is occupied with the performance at hand, but there is no way to know what they are actually doing. Even with the performers, the possibilities are endless; I recently

discovered (ten months after the performance) that one of the actors for *The Gas Heart* was actually at a party when he performed, attention divided between the performance, other conversations and his drink.

In traditional theatre, each audience member knows what the others are doing, and there is some physical commonality between the spectators. Even in Happenings, all of the participants are in the same physical space, subject to the same (dis)comforts and experiencing more or less the same thing. Online, your avatar can be in the same digital space as the avatar of another participant, though both users may be experiencing a completely different set of stimuli. This distances the online communication somewhat, making it more formalized and less personal. This recalls Brecht's *Verfremdungseffekt*, in that the distance created by the computer network gives users cause to stop and think about what is happening, rather than simply using the emotional and physical cues which are so important in everyday communication and traditional theatre. Perhaps computer-mediated theatre could use this effect to further the topical or political nature of its message, as in *Dress the Nation*, or encourage further interaction along ideological lines.

This distancing effect works the other way around as well. When you are participating in a computer-mediated event, nobody knows what you are doing or where you are. This can give participants an enormous amount of freedom. The physical realities experienced by each user are determined by that user, including the comfort of their surroundings, any food or drink, or any other imaginable situation. There is no restriction to the gender or age that a participant can

adopt, allowing them to select an identity, like putting on a costume for the performance. While this may strain the contact between two users, the acceptance of each individual's presented identity is simply another part of the suspension of disbelief which accompanies computer-mediated theatre. It also serves to increase the freedom and agency of each participant in the performance.

The distanced communication also means that there is less connection between the participants. A lot of the emotionally-based contact that is essential to the theatrical event is much more difficult to bring about in the digital medium. This makes emotional involvement in the performance a primary concern for computer-mediated theatre. One possible solution to this problem is to use the strength of the internet in communicating ideas to compensate for the difficulties in emotional communication.

The ideological nature of *Dress the Nation* represents one possibility for the creation of effective online events. Especially in the conversation portions of the performance, significant emotional reactions were elicited from the participants based solely on the topical nature of their subject matter. The potential range for computer-mediated theatre does not have to be limited to ideology.

One area for future experimentation is the presentation of highly visceral experiences in the form of an online performance. Suicide, as treated in *'night Mother* by Marsha Norman, would make for an interesting performance, as would other more sexual or immediately violent actions. By calling on events associated with social taboos, the distancing effect of the digital medium can be

used to make people think about the reasons for their beliefs. As stated earlier, significant experimentation is still needed to determine how participants would react to various presentations of these scenarios, and what kinds of issues are the most effective for maintaining audience involvement.

The last of the major differences between the theatrical and digital medium is the lack of physicality of digital spaces. Because of the lack of physicality, new non-realistic visual and aural formulations can be created. Many video games, perhaps for this reason, represent futuristic or fantastical settings, showing on a computer monitor what can not be easily represented in reality. The non-physicality of the medium also allows the laws of physics to be altered. This enables the creation of environments, such as the one used for *The Gas Heart*, where there was neither gravity nor physical orientation. Computer game designers use the ability to change the physics within a game to draw a larger audience. As Guardini Pietro points out, in spite of some games' claims of realism, the physics and mechanics need to be changed significantly from real life in order to make the games less frustrating for the players (59-60).

As computer technology evolves, producers of computer-mediated theatrical events will need to select, as game designers do, the physical paradigm which will most effectively support the performance. To date, most online performances have simply used pre-existing spaces and interfaces. In order for computer-mediated theatre to be more effective, decisions on the space and physical simulation will have to be made based on which emulations most strongly support the story being told, as in video game design (Pietro 63). To

take full advantage of this possibility, more interfaces need to be built whose primary goal is to support computer-mediated performance.

The lack of physicality can also become important because it distances the participants from the action occurring on the screen. While participants can get involved and physically interact based on a keyboard, mouse or microphone, computer-mediated theatre does not have the same kind of physical involvement which became so important for Kaprow in his installation pieces and Happenings. For the time being, at least, computer-mediated artists must take this into account as a serious limitation of digital creation.

This problem may soon be solved by technological advance, however. Innovation in computer hardware, especially in wearable devices, will help break through this barrier of physicality. Other non-wearable devices, such as smart rooms, where sensors in a specially designed room translate the users' physical actions into computer information, may also become important in conferring a sense of physical being and presence on computer-mediated events. These devices are not yet widely available, but are being experimented with at universities and development companies across the world and may soon be available for the creation of artistic works.

If the creation of immersion and interaction, essential for telepresence, is to be effective, the idiosyncrasies of the digital medium must all be taken into account. Of course, as the medium itself evolves, the artistic forms which accompany it will grow as well. The book as we know it took fifty years of experimentation to evolve into a form we would recognize as a book today

(Murray 28). It was one hundred years after that, after developments in printed narrative, that the first European novel, *Don Quixote* was published (29). A similar evolution occurred with theatre in ancient Greece, as it progressed from ritual to the more narrative-driven theatrical event which laid the foundation for the European tradition of theatre. The cinematic medium also began with a period of intense innovation, which lasting from 1898, when the first publically screened projection took place, until 1918 (Cook 9-108). Computer-mediated theatre, also known as virtual theatre, cyberformance, or post-organic theatre, among other names, is in its infancy, with many years of experimentation ahead which will determine its ultimate form.

One thing that is certain, even at this early stage, is that telepresence is essential for the computer-mediated theatrical event, much in the same way as theatrical presence is for traditional theatre. As seen in Chapter 1, immersive environments remain important, as they are in traditional theatre, and the processes of mimesis and representation which makes them so vital has been carried over to the digital medium. Chapter 2, oriented around the new role of the audience, highlighted the changes in interactivity, and the extent to which computer-mediated theatre has the potential of returning the spectators' agency, much as Happenings did, and creates a single category of "participant" rather than the breakdown of roles present in traditional theatre. This final chapter, bringing together the immersive and interactive elements of the computer-mediated theatrical event, points to the future for this emerging art form. Telepresence, created from an environment and narrative which are strong in

both the immersive and interactive elements of digital creation, is essential. Our ability to create effective events rests largely on our ability to use the differences between the digital medium and the theatrical one to emphasise the story being told. The creation of telepresence is vital for the creation of vibrant computer-mediated theatre.

Conclusion

Many elements of the theatrical event can not be transferred directly to the digital medium. The theatrical space, as seen in Chapter 1, loses some of its semiotic complexity through the loss of its physicality, but emerges rich in symbolic potential. Whether physical or digital, the space calls on the imagination of the audience and provides a basis for the theatrical event. The audience, as a concept, is also challenged by the medium of computers, largely because of the interactive nature of human-computer interfaces. This interactivity, which drives the entire notion of computer use, necessitates a greater range of audience participation. Even the narrative structure of computer-mediated theatre must shift to accommodate the idea-based interaction which is essential to the creation of telepresence.

While elements of the theatrical event are maintained in the new genre, they are changed significantly because of computer mediation. Further experiments, performances and theorization are required to clarify the nature and potential of the computer-mediated theatrical event itself. Various narrative and audience-driven forms show potential, and only time will tell which ones will prove to be most effective. Space, audience and narrative are all shifting with computer-mediation and are in need of further theoretical examination.

Perhaps this need will culminate in the writing of a Digital Poetics, attempting to harmonize and unify the intense interaction which is the hallmark of computer-mediated theatre. Alternately, there may be a rejection of any prescriptive method, bringing about a more liberated narrative and the

idealization of flexibility. Whichever way computer-mediated theatre evolves, it will be in need of both practical experimentation and theoretical reflection to help it define its destination.

This thesis, together with other pioneering criticism, forms the beginning of such a theoretical examination. Needless to say, there is significant room for further research. In particular, the relationship between participants needs further scrutiny to establish a conceptual framework in which it can be better understood. Closely associated with that, the time-sensitive elements of the computer-mediated theatrical event need to be examined further. The impact of the loss of body caused by digital media is another area that requires further exploration, which I intend to pursue in the future. New models of interaction and communication, as well as additional critical vocabulary, are needed to fully understand these issues.

The event itself, through the deconstruction of narrative, is also in need of serious examination. The audience-driven plot of hypertext fiction will likely find its way into computer-mediated theatre in the near future. This raises questions about the authorship of a work of art, and the role of both artist and audience in the creation of its aura. Also of some concern is the creation of a new dramaturgical model for such events, and the ways in which a playwright and performer can cooperate with their audience to create a coherent narrative. Balancing planned narrative with interactive flexibility will be the focus of much future experimentation.

The issues raised in this thesis are also important for our understanding of contemporary theatre. If we accept analyses that tell us that the omnipresence of film and television has shaped the behaviour of theatrical audiences, then we will need to remain alert for future shifts in audience sensibility as computer technologies and entertainment become more pervasive. Hyperstructural narrative may become necessary for performance in the same ways that the rapid changes in scene and character, common in cinema, are now frequently found on our technically advanced stages. The problematization of space, audience and presence in this thesis could also form the basis of a detailed re-examination of the elements of the theatrical event in the light of emerging technologies.

There is a growing community of online performers and an expanding range of live performance on the internet. In addition to the groups mentioned in this thesis, many other groups have performed online. A fairly detailed list can be found on the "networked_performance" blog (http://www.turbulence.org/blog/), recently started as a meeting place for computer-based performers. This site details a variety of forms of live computer-mediated performance, from dance to theatre to music. There have also been digital adaptations of many plays, including *MacBeth*, *A Streetcar Named Desire*, and *No Exit*, to name a few. Many of these performances have not been documented online. The performance of *No Exit*, for instance, was performed using Digital Space Traveler, and I only found out about it through e-mails exchanged with one of the participants. Much like theatrical performances,

computer-mediated theatrical events are ephemeral, and even if a record of them exists, they can not be fully re-created after the initial performance.

This rapid growth in forms and approaches to computer-mediated performances creates a promising future for the event. Most performances, to date, have been freely distributed to a small number of people specifically interested in this phenomenon. While it is possible that computer-mediated theatre will remain on this experimental and amateur level, I find it more likely that ways will be found to commodify this new art form. Some indication of this may be found in the advent of graduate programs focussed on bringing together the arts and computer technology, the Interactive Media (MA / MSc / PhD) program at Simon Fraser University and the Media Arts and Technology (MA) program at University of California Santa Barbara being two examples of this. Though it seems highly likely, it is impossible to know at this juncture how soon a commodification of computer-mediated art will occur, or if it will happen at all.

Computer-mediated theatre, as a new art form, represents an excellent opportunity for future experimentation and research. The emphasis, as with previous technologically driven forms, will be primarily on the differentiation of computer-mediated theatre from other forms, and on the creation of narrative and theoretical frameworks which will strengthen the event. Of primary importance is the creation of telepresence, which allows participants to become fully involved and engaged in the event. This thesis, in its analysis of space, audience and presence, provides a framework for future experimentation and thought, aiding our understanding of this emerging genre of performance.

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